

**To:** Scott Smith[ssmith@opflexinventor.com]  
**From:** Durno, Mark  
**Sent:** Tue 8/9/2016 6:20:41 PM  
**Subject:** RE: bacteria and molds-

Thanks. Very informative.

We are at City Hall – North Municipal Building. 1101 S. Saginaw St, Room N101. We are the door closest to the corner of S. Saginaw and 5<sup>th</sup>.

Mark

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**Mark Durno**

Homeland Security Advisor / Deputy Chief

Emergency Response Branch  
**U.S. Environmental Protection Agency**  
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Westlake, OH 44145

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**From:** Scott Smith [mailto:ssmith@opflexinventor.com]  
**Sent:** Tuesday, August 09, 2016 2:06 PM  
**To:** Durno, Mark <durno.mark@epa.gov>  
**Subject:** FW: bacteria and molds-

fyi

**From:** Judith Zelikoff <Judith.Zelikoff@nyumc.org>  
**Date:** Monday, August 8, 2016 at 6:21 PM  
**To:** Scott Smith <ssmith@opflexinventor.com>  
**Subject:** bacteria and molds-

Hi Scott, Certain bacteria can produce acetone through fermentation metabolism. A particular species of Clostridium is well known to do this through anaerobic (without oxygen metabolism).

Some species of bacteria and molds produce “microbial volatile organic compounds (mVOCs). Many of these emitted chemicals are identical to those originating from solvent-based building materials, including alcohols, aldehydes, ketones, hexane, methylene chloride, benzene and acetone. Some microorganisms can also produce ammonia and other nitrogen-containing compounds. Health effects from mVOCs have not been specifically studied but are implicated in some health effects and odor-related health complaints (Biological Risk Engineering Handbook, 2003).

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Director, Community Outreach

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